WHAT IS CLAIMED IS:

1. An OLED display comprising:

a) a substrate;

b) one or more OLED light emitting elements including a first electrode formed on the substrate, one or more OLED light emissive layers located over the first electrode, and a second electrode located over the OLED light emissive layers; and

c) an encapsulating cover located over the second electrode and affixed to the substrate;

wherein the substrate or cover comprises a composite of a non-metallic layer and a metal layer, where the metal layer has a thickness between 1 micron and 1,000 microns and is thinner than the non-metallic layer.

2. The OLED display claimed in claim 1 wherein the non-metallic layer comprises a glass or plastic layer.

3. The OLED display claimed in claim 1 wherein the metal layer comprises aluminum, silver, copper, iron, chromium, or magnesium, or an alloy including at least one of aluminum, silver, copper, iron, chromium, and magnesium.

4. The OLED display claimed in claim 1 wherein a heat sink is affixed to the edge of the cover or substrate and in thermal contact with the metal layer.

5. The OLED display claimed in claim 1 wherein the OLED display is incorporated within an appliance and the metal layer is in thermal contact with the appliance.

6. The OLED display claimed in claim 1 wherein the composite substrate or cover is formed by first forming a glass or plastic layer and depositing a metal layer upon the glass or plastic.

7. The OLED display claimed in claim 1 wherein the composite substrate or cover is formed by first forming a metal layer and coating glass or plastic upon the metal layer.

8. The OLED display claimed in claim 1 wherein the composite substrate or cover is formed by first forming a glass or plastic layer and a metal layer and affixing the metal layer to the glass or plastic layer with a thermally conductive adhesive.

9. The OLED display claimed in claim 1 wherein the first electrode, the OLED layer(s), and the second electrode are first formed upon a first side of a glass or plastic layer and the metal layer is subsequently formed upon the second side of the glass or plastic layer.

10. The OLED display claimed in claim 1 wherein the metal layer is non-contiguous.

11. The OLED display claimed in claim 1 wherein the metal layer is part of a flexible composite substrate.

12. The OLED display claimed in claim 1 wherein the metal layer is part of a flexible composite cover.

13. The OLED display claimed in claim 1 wherein the metal layer is located between a glass or plastic cover layer and the second electrode.

14. The OLED display claimed in claim 1 wherein a glass or plastic cover layer is located between the metal layer and the second electrode.

15. The OLED display claimed in claim 1 wherein the non-metallic layer comprises a glass layer.

16. The OLED display claimed in claim 15 wherein the glass is a borosilicate glass.

17. The OLED display claimed in claim 16 wherein the metal layer comprises aluminum.

18. The OLED display claimed in claim 1 wherein the non-metallic layer comprises a plastic layer and the metal layer acts as a barrier layer to prevent the passage of gas or liquids through the substrate or cover.

19. The OLED display claimed in claim 1 wherein the metal layer reduces electromagnetic interference.

20. The OLED display claimed in claim 1 wherein the metal layer has a thickness between 5 micron and 500 microns.